VISUAL FUNCTION TESTS
INCLUDING:

- ELECTRORETINOGRAM (ERG)
- VISUAL EVOKED POTENTIAL (VEP)
- ELECTRO-OCULOGRAM (EOG)

Visual Electrophysiology Diagnostic Laboratory
at
Eye Institute East (EIE)

Eye Institute East
404 Portland Street
Columbia MO 65201

Appointments are usually scheduled for Friday mornings between 9:00 and 12:00 a.m.

University of Missouri
HEALTH CARE

Visual Electrophysiology Diagnostic Laboratory
Department of Ophthalmology

Phone: 573-882-8920

The Mason Eye Institute
Department of Ophthalmology
University of Missouri
What we do?
Our services at our satellite office, Eye Institute East, at 404 Portland Street behind Columbia Regional Hospital, include visual function tests for patients such as electroretinogram (ERG), visual evoked potential (VEP) and electro-oculogram (EOG). As integrated parts of ophthalmology examination, these tests will provide objective information for eye disease diagnosis, prognosis and treatment.

What are visual electrophysiology diagnosis tests?
Visual electrophysiology diagnostic tests contain a family of noninvasive recordings which measure electrical signals that occur in the visual system in response to visual stimulation. Like electrocardiogram (ECG or EKG) which tests the heart function, the visual electrophysiology tests (including ERG, EOG and VEP) will tell you how well your retina and optic nerve work. What different is ECG signals are generated spontaneously while most of the visual electrophysiology tests are evoked potentials, which means to get these responses, a visual stimulation such as light is needed. Usually, normal eye and disease eye react differently to the stimulation, and we can therefore deduce the eye function.

What information can these tests provide?
The visual electrophysiology diagnostic tests reflect retinal, optic nerve and visual pathway function, and provide important information for ocular disease diagnosis and treatment. It is regarded as the only objective way to determine the function of the retina and visual pathway.

The electrical signals in the visual system elicited by different visual stimuli are recorded. The electrophysiological waveforms are generated from different cells. In a diseased eye these signals may be smaller in size and slower in timing.

What are the test procedures and how long will the tests take?
We will attach several electrodes to the skin around the eyes. These electrodes are non-invasive, painless. For ERG test, the pupil will be dilated and a corneal contact electrode will be placed. During the tests, different light stimulation will be used and the response of your eyes to the stimulation will be recorded. After the test, a report will be forwarded to your doctor.

Time needed to complete the tests varies. In many cases, it takes 45-60 minutes.

What do I need to prepare for the tests?
- Plan on arriving 15 minutes before your scheduled test time.
- If possible, bring along all relevant information from past examinations, especially eye examination results (vision, color vision, visual field, dark adaptation, fundus-angiographies, etc.).
- Bring your prescription eyeglasses.
- Patients scheduled for an ERG test will have their pupils dilated. IF YOU HAVE GLAUCOMA, PLEASE LET US KNOW.
- If you are concerned about driving home after dilation, please arrange to have someone drive you. BRING SUNGLASSES.
- Keep head skin clean (especially around the eye and ear lobe) and do not use makeup. If you are scheduled for a VEP test, wash hair beforehand.
- You may wish to bring an iPod with earbuds to listen to during dark adaptation.